

CLAIMS

1. (Currently amended) A system comprising:
 - a technical support center;
 - a packet switching network coupled to the technical support center by a first interface line;
 - at least one access server coupled to the packet switching network by a second interface line;
 - where the at least one access server is configured to communicate network information to the technical support center through the packet switching network;
 - where the at least one access server includes at least one hardware subsystem, at least one software subsystem, and embedded software operable to collect and analyze status information from the at least one hardware subsystem and the at least one software subsystem to detect a problem with any one of the at least one hardware and software subsystems or the second interface line;
 - where the status information includes error messages from any one of the at least one hardware and software subsystems or the second interface line;
 - where the at least one access server is configured to send, in response to the detection of the problem, a first message to the technical center without interrupting the normal operation of the acccss server network-deviee, the first message including the status information;
 - where the least one access server is configured to page a user of the access server responsive to the detection of the problem;
 - where the at least one access server is configured to respond to a second message generated by the technical support center requesting further information regarding the problem.
2. (Previously presented) The system of claim 1, wherein the packet switching network comprises the Internet and the first message comprises an email message.
3. (Previously presented) The system of claim 1, wherein the first message comprises a fax transmission.

4.-7. (Canceled)

8. (Previously presented) The system of claim 1, wherein the error messages identify a particular failure for any one of the hardware and software subsystems.

9. (Previously presented) The system of claim 1, wherein the embedded software comprises:

a hardware health status monitor subsystem;
a software health status monitor subsystem; and

a remote diagnostic embedded process subsystem for communicating with the hardware health status monitor subsystem and the software health status monitor subsystem, for collecting status information provided by the software health status monitor subsystem and the hardware health status monitor subsystem, and for detecting problems encountered by the hardware and software subsystems.

10.-11. (Canceled)

12. (Currently amended) A network device that can be coupled to a packet switching network by an interface line to communicate with a technical support center that is also coupled to the packet switching network, the network device comprising:

a hardware subsystem;
a software subsystem; and

means for monitoring the status of the hardware and software subsystems and the interface line, the network device capable of transmitting a first message to the technical support center while maintaining normal operation, the first message transmitted in response to the monitoring means detecting a problem with one of the hardware subsystem and the software subsystem, the first message transmitted prior to failure of the one of the hardware subsystem and the software subsystem, the first message notifying the technical support center of the problem and indicating the status of the hardware subsystem and the software subsystem;

where the means for monitoring includes means for paging a user to alert the user of the problem;

where the network device is capable of sending additional information regarding the problem to the technical support center in response to receiving a second message from the technical support center, the second message generated by the technical support center in response to the first message.

13. (Previously presented) The network device of claim 12, wherein the network device is capable of operation without interruption while the technical support center diagnoses the problem with the one of the hardware subsystem and software subsystem.

14-18. (Canceled)

19. (Previously presented) The network device of claim 12, the means for monitoring further comprising:

a hardware health status monitor subsystem;

a software health status monitor subsystem; and

a remote diagnostic embedded process subsystem for communicating with the hardware health status monitor subsystem and a software health status monitor subsystem, for collecting status information provided by the software health status monitor subsystem and the hardware health status monitor subsystem, and for detecting problems with the hardware and software subsystems.

20. (Previously presented) The network device of claim 19, the first message transmitted in response to the remote diagnostic embedded process subsystem detecting an error message from the one of the hardware subsystem and the software subsystem.

21. (Previously presented) A network device that can be coupled to a packet switching network by an interface line to communicate with a technical support center that is also coupled to the packet switching network, the network device comprising:

a hardware subsystem;

a software subsystem; and

means for monitoring the status of the hardware and software subsystems and the interface line, the network device capable of transmitting a first message to the technical support center while maintaining normal operation, the first message transmitted in response to the monitoring means detecting a problem with one of the hardware subsystem and the software subsystem, the first message transmitted prior to failure of the one of the hardware subsystem and the software subsystem, the first message notifying the technical support center of the problem and indicating the status of the hardware subsystem and the software subsystem;

where the means for monitoring includes:

a hardware health status monitor subsystem;

a software health status monitor subsystem; and

a remote diagnostic embedded process subsystem for communicating with the hardware health status monitor subsystem and a software health status monitor subsystem, for collecting status information provided by the software health status monitor subsystem and the hardware health status monitor subsystem, and for detecting problems with the hardware and software subsystems;

where the first message is transmitted in response to the remote diagnostic embedded process subsystem detecting an error message from the one of the hardware subsystem and the software subsystem;

where the means for monitoring includes means for detecting at least one of a memory capacity of the network device dropping below a first threshold level, a percentage of call failures to or from the network device exceeding a second threshold level, a software reload by the network device, a reduced quality of an interface on the network device, a temperature of the network device exceeding a third threshold level, and a failed interface on the network device;

where the network device is capable of sending additional information regarding the problem to the technical support center in response to receiving a second message from the technical support center, the second message generated by the technical support center in response to the first message.

22.-28. (Canceled)

29. (New) The system of claim 1 where the at least one access server is configured to send further information regarding the problem to the technical support center in response to the second message.